CLAIMS

We claim:

1. A computerized natural language processing system for knowledge management comprising:

an input means for entering data into the system;

at least one server computer having a processor, an area of main memory for executing program code under the direction of the processor, and a disk storage device for storing data and program code;

computer program code stored in disk storage device and executing in the main memory under the direction of the processor;

a knowledge repository with a relational database structure with a plurality of database listings that are integrated and managed within the knowledge repository; and

an output means for generating a response to the data originally input in the system.

2. The computerized natural language processing system for knowledge management, according to claim 1, wherein said input means is a computer keyboard.

3. The computerized natural language processing system for knowledge management, according to claim 1, wherein said plurality of database listings include derived propositions, subordinate conjunction linkages, nouns, logic database listings and peripheral databases.

4. The computerized natural language processing system for knowledge management, according to claim 1, wherein said output means for generating a response to the data originally input in the system, is a computer monitor and printer.

5. A computerized natural language processing method for knowledge management of data, between the system and a user, comprising the steps of:

    performing lexical analysis;

    performing structural analysis;

    performing data management steps; and

    generating a response in proper grammatical form.

6. The method according to claim 5, wherein the step of performing lexical analysis further comprises the steps of:

    receiving sentences of data by the user;

    seeking individual words in the sentence and utilizing the user's sentence in a lexicon to collect lexical data on each word's parts of speech, word senses and semantic associations to other words;

organizing the words from the sentences into synonym sets in the lexicon; and

dividing the lexical data into identifiers and non-identifiers.

7. The method according to claim 5, wherein the step of performing structural analysis further comprises the steps of:

extracting numerals, adverbs, dates and times;

determining a sentence type for each sentence;

deducing the fewest number of permutations of word senses resulting in reasonable meanings and understandings of the sentences;

processing the lexical data using transformational grammar rules involving part of speech (POS) specific phrase structure rules, POS specific transformational rules, concept specific transformational rules and concept specific phrase structure rules; and

constructing a conceptual dependency representation of the sentences from the permutations and the lexical data.

8. The method according to claim 5, wherein the step of performing data management steps, further comprises the steps of:

locating and comparing the conceptual dependency representation to existing data relevant to the user's statement, stored in a relational database and serving as a knowledge repository, which accumulates all data from previous entry by the user;

locating and comparing the conceptual dependency representation utilizing different types of logic to apply to real world events;

utilizing the different types of logic to determine whether existing data agrees or conflicts with the conceptual dependency representation; and

adding data from the conceptual dependency representation to the knowledge repository.

9. The method according to claim 5, wherein the step for generating a response in proper grammatical form further comprises the step of constructing and displaying one or more grammatically correct responses which are appropriate and relevant to the user's data.